

Docket No.: 3893-0220PUS2  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Erik Rytter OTTOSEN et al.

Application No.: NEW

Confirmation No.: N/A

Filed: January 5, 2006

Art Unit: N/A

For: NOVEL AMINOBENZOPHENONE COMPOUNDS

Examiner: Not Yet Assigned

**LETTER**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

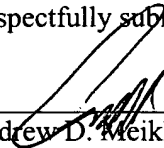
Sir:

The PTO is requested to use the amended sheets/claims attached hereto (which correspond to Article 19 amendments or to claims attached to the International Preliminary Examination Report (Article 34)) during prosecution of the above-identified national phase PCT application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §1.16 or 1.14; particularly, extension of time fees.

Dated: January 5, 2006

Respectfully submitted,

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Attachment(s)

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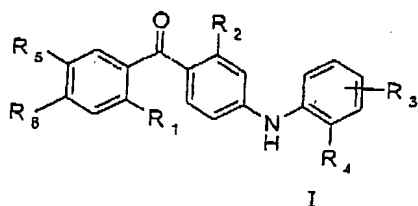
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PCT/DK2004/006490

new claim submitted with letter of 20/05/2005 (with amendments indicated)

1. A compound of general formula I



wherein

$R_1$  is halogen, hydroxy, mercapto, trifluoromethyl, amino,  $C_{1-4}$ alkyl,  $C_{2-4}$ alkenyl,  $C_{2-4}$ alkynyl,  $C_{1-4}$ alkoxy,  $C_{1-4}$ alkylthio,  $C_{1-6}$ alkylamino,  $C_{1-4}$ alkoxycarbonyl, cyano,  $-CONH_2$  or nitro;

$R_2$  is hydrogen, halogen, hydroxy, mercapto, trifluoromethyl, amino,  $C_{1-4}$ alkyl,  $C_{2-4}$ alkenyl,  $C_{2-4}$ alkynyl,  $C_{1-4}$ alkoxy,  $C_{1-4}$ alkylthio,  $C_{1-6}$ alkylamino,  $C_{1-4}$ alkoxycarbonyl, cyano,  $-CONH_2$ , phenyl or nitro;

$R_3$  represents one or more, same or different substituents selected from the group consisting of hydrogen, halogen, hydroxy, mercapto, trifluoromethyl, cyano, carboxy,  $CONH_2$ , nitro,  $C_{1-4}$ alkyl,  $C_{2-4}$ alkenyl,  $C_{2-4}$ alkynyl,  $C_{1-4}$ alkoxy,  $C_{1-4}$ alkylthio,  $C_{1-4}$ alkoxycarbonyl;

$R_4$  is hydrogen, halogen, nitro,  $R_8$  or  $Y_1R_8$ ;

$Y_1$  is  $-O-$ ,  $-S-$ ,  $-S(O)-$ ,  $-S(O)_2-$ ,  $-NR_a-$ ,  $-NR_aC(O)NR_b-$ ,  $-NR_aC(O)-$ ,  $-C(O)NR_a-$ ,  $-C(O)NR_aO-$ ,  $-C(O)-$ ,  $-C(O)O-$ ,  $-NR_aC(O)O-$ ,  $-S(O)_2NR_a-$ ,  $-NR_aS(O)_2-$ ;

$R_a$ ,  $R_b$  and  $R_c$  are the same or different, each representing hydrogen,  $C_{1-4}$ alkyl,  $C_{2-4}$ alkenyl,  $C_{2-4}$ alkynyl,  $C_{3-8}$ carbocyclyl,  $C_{1-12}$ heterocyclyl or aryl, each of  $C_{1-4}$ alkyl,  $C_{2-4}$ alkenyl,  $C_{2-4}$ alkynyl,  $C_{3-8}$ carbocyclyl,  $C_{1-12}$ heterocyclyl or aryl being optionally substituted by one or more, same or different substituents represented by  $R_7$ ;

$R_8$  is hydrogen,  $C_{1-10}$ alkyl- $C_{1-12}$ heterocyclyl,  $C_{1-10}$ alkyl- $C_{3-12}$ carbocyclyl,  $C_{1-10}$ alkyl,  $C_{2-10}$ alkenyl,  $C_{2-10}$ alkynyl,  $C_{3-12}$ carbocyclyl or  $C_{1-12}$ heterocyclyl, each of  $C_{1-10}$ alkyl- $C_{1-12}$ heterocyclyl,  $C_{1-10}$ alkyl- $C_{3-12}$ carbocyclyl,  $C_{1-10}$ alkyl,  $C_{2-10}$ alkenyl,  $C_{2-10}$ alkynyl,

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25/05/2005

$C_{3-12}$ carbocyclyl or  $C_{1-12}$ heterocyclyl being optionally substituted by one or more, same or different substituents represented by  $R_7$ ;

$R_7$  is halogen, hydroxy, mercapto, trifluoromethyl, amino,  $C_{1-4}$ alkyl,  $C_{1-6}$ hydroxyalkyl,  $C_{1-4}$ alkoxy,  $C_{1-4}$ alkylthio,  $C_{1-6}$ alkylamino,  $C_{1-4}$ alkoxycarbonyl,  $C_{1-9}$ trialkylammonium in association with an anion, cyano, azido, nitro,  $-S(O)_2NH_2$ ,  $-S(O)_2NR_aR_b$ ,  $-S(O)_2R$ ,  $-COOH$ ,  $-CONH_2$ ,  $-NR_aC(O)R'$ ,  $-CONHR'$  or  $-CONRR'$ , wherein  $R$  and  $R'$  are same or different, each representing hydrogen or  $C_{1-3}$ alkyl;

one of  $R_5$  and  $R_6$  is  $-COOH$ ,  $-C(O)NHOH$ ,  $-C(O)NHNH_2$ ,  $Y_2R_9$ ,  $Y_2R_9Y_3R_{10}$ ,  $C_{1-6}$ alkyl- $Y_2R_9$ ,  $C_{1-6}$ alkyl- $Y_2R_9Y_3R_{10}$ ,  $C_{2-6}$ alkenyl- $Y_2R_9$ ,  $C_{2-6}$ alkenyl- $Y_2R_9Y_3R_{10}$ ,  $Y_2R_9-C_{1-6}$ alkyl- $Y_3R_{10}$ ,  $Y_2R_9-C_{2-6}$ alkenyl- $Y_3R_{10}$ ,  $C_{3-12}$ carbocyclyl- $Y_2R_9$ ,  $C_{3-12}$ carbocyclyl- $Y_2R_9Y_3R_{10}$ ,  $C_{1-12}$ heterocyclyl- $Y_2R_9$ ,  $C_{1-12}$ heterocyclyl- $Y_2R_9Y_3R_{10}$ ,  $C_{3-12}$ carbocyclyl- $C_{1-6}$ alkyl- $Y_2R_9$ ,  $C_{3-12}$ carbocyclyl- $C_{1-6}$ alkyl- $Y_2R_9Y_3R_{10}$ ,  $C_{1-12}$ heterocyclyl- $C_{1-6}$ alkyl- $Y_2R_9$ ,  $C_{1-12}$ heterocyclyl- $C_{1-6}$ alkyl- $Y_2R_9Y_3R_{10}$ ,  $C_{3-12}$ carbocyclyl- $C_{1-6}$ alkyl- $Y_3R_{10}$ ,  $C_{1-12}$ heterocyclyl- $C_{1-6}$ alkyl- $Y_3R_{10}$ ,  $C_{1-12}$ heterocyclyl- $C_{1-10}$ alkyl,  $C_{3-12}$ carbocyclyl- $C_{1-10}$ alkyl,  $C_{1-10}$ alkyl- $C_{1-12}$ heterocyclyl,  $C_{1-10}$ alkyl- $C_{3-12}$ carbocyclyl,  $C_{1-10}$ alkyl,  $C_{2-10}$ alkenyl,  $C_{2-10}$ alkynyl,  $C_{3-12}$ carbocyclyl or  $C_{1-12}$ heterocyclyl, each of which being optionally substituted by one or more, same or different substituents represented by  $R_7$ , and the other is hydrogen, halogen, hydroxy, mercapto, trifluoromethyl, amino,  $C_{1-4}$ alkyl,  $C_{2-4}$ alkenyl,  $C_{2-4}$ alkynyl,  $C_{1-4}$ alkoxy,  $C_{1-4}$ alkylthio,  $C_{1-6}$ alkylamino,  $C_{1-4}$ alkoxycarbonyl, cyano,  $-CONH_2$  or nitro,

with the proviso that when  $R_5$  or  $R_6$  is phenyl,  $C_{1-5}$ alkyl or  $C_{2-3}$ alkenyl, said  $R_5$  or  $R_6$  is substituted by one or more, same or different substituents represented by  $R_7$  (except three fluorine when  $R_5$  or  $R_6$  is methyl) ~~hydrogen~~,

with the further proviso that when  $R_5$  or  $R_6$  is  $-COOH$ ,  $Y_1$  cannot be  $-NR_a-$ ,  $-NR_aC(O)NR_b-$ ,  $-NR_aC(O)-$  or  $-NR_aC(O)O-$ , and  $R_3$  or  $R_4$  cannot be nitro,

with the further proviso that when  $R_2$  is hydrogen, one of  $R_5$  or  $R_6$  is not ~~hydrogen~~ ~~or~~ optionally substituted ( $C_{3-18}$  heterocyclyl,  $C_{1-7}$ alkyl,  $C_{2-7}$ alkenyl,  $C_{2-7}$ alkynyl or  $C_{1-7}$ alkoxy);

$Y_2$  is  $-O-$ ,  $-S-$ ,  $-S(O)-$ ,  $-S(O)_2-$ ,  $-NR_a-$ ,  $-NR_aC(O)NR_b-$ ,  $-NR_aC(O)-$ ,  $-C(O)NR_a-$ ,  $-C(O)NR_aO-$ ,  $-C(O)-$ ,  $-NR_aC(O)O-$ ,  $-NR_aS(O)_2-$ ,  $-OC(O)-$ ,  $-C(O)O-$ ,  $-C(O)NR_aNR_bC(S)NR_c-$ ,  $-C(O)NR_aNR_b-$ , or  $-S(O)_2NR_a-$ ;

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$R_9$  is  $C_{1-10}$ alkyl- $C_{1-12}$ heterocyclyl,  $C_{1-10}$ alkyl- $C_{3-12}$ carbocyclyl,  $C_{1-10}$ alkyl,  $C_{2-10}$ alkenyl,  $C_{2-10}$ alkynyl,  $C_{3-12}$ carbocyclyl,  $C_{1-12}$ heterocyclyl,  $C_{3-12}$ carbocyclyl- $C_{1-10}$ alkyl, or  $C_{1-12}$ heterocyclyl- $C_{1-10}$ alkyl,  $C_{3-6}$ carbocyclyl- $C_{1-6}$ alkenyl,  $C_{3-6}$ carbocyclyl- $C_{2-6}$ alkynyl, each being optionally substituted by one or more, same or different substituents represented by  $R_7$ ;

with the proviso that when  $Y_2$  is  $-O-$ ,  $-NR_8-$ ,  $-S-$  or  $-C(O)O-$ , and  $R_9$  is  $C_{1-6}$ alkyl, said  $C_{1-6}$ alkyl is substituted by one or more, same or different substituents represented by  $R_7$ ;

$Y_3$  is  $-O-$ ,  $-S-$ ,  $-S(O)-$ ,  $-S(O)_2-$ ,  $-NR_8-$ ,  $-NR_8C(O)NR_8-$ ,  $-NR_8C(O)-$ ,  $-C(O)NR_8-$ ,  $-C(O)NR_8O-$ ,  $-C(O)-$ ,  $-NR_8C(O)O-$ ,  $-NR_8S(O)_2-$ ,  $-OC(O)-$  or  $-C(O)O-$ ;

$R_{10}$  is  $C_{1-10}$ alkyl- $C_{1-12}$ heterocyclyl,  $C_{1-10}$ alkyl- $C_{3-12}$ carbocyclyl,  $C_{1-10}$ alkyl,  $C_{2-10}$ alkenyl,  $C_{2-10}$ alkynyl,  $C_{3-12}$ carbocyclyl or  $C_{1-12}$ heterocyclyl, each being optionally substituted by one or more, same or different substituents represented by  $R_7$ ;

or, when one of  $R_5$  or  $R_6$  is the group  $-C(O)NR_8R_9$ ,  $R_8$  and  $R_9$  together with the nitrogen atom to which they are attached form a  $C_{1-12}$ heterocyclic ring optionally comprising one or more additional heteroatoms selected from the group consisting of O, S and N, optionally substituted with one or more substituents represented by  $R_7$ ;

or a pharmaceutically acceptable salt, solvate, or ester thereof.

AMENDED SHEETS